

USSR

UDC 576.851.48

ASTAPOV, A. A., and LYAPKALO, YA. M., Chair of Microbiology, Kuban Medical
~~Institute~~, Krasnodar

"Reversion of the Nontransmissible R-Factor to Transferability"

Moscow, Genetika, Vol 7, No 5, 1971, pp 164-165

Abstract: In a study performed on *Escherichia coli*, *Shigella sonnei*, and *Shigella flexneri* strains sensitive to antibiotics, it was shown that the nontransmissible R-factor loses its determinants of resistance to streptomycin, colimycin, tetracycline, and monomycin after the host cells are kept on a semiliquid meat-peptone agar. During conjugation, *Shigella sonnei* transmits the segregant R(X)-factor (but not the initial R-factor) to *Escherichia coli* with a relatively low frequency (10^{-7} to 10^{-9}), but *E. coli* further transmits this factor to *Shigella flexneri* with a high frequency (3.1×10^{-4}). After the carrier cells are treated with acridine dyes, the transmissible R-factor is eliminated in 1-24% of cases. Though this is probably the first observation of the reversal of R-factors from a nontransferable to a transferable condition, the existence of this transmutability is now beyond doubt, and this finding may be helpful in explaining the evolutionary nature of autonomous R-determinants.

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UDC: 547.963.3

KOROTYAYEV, A. I., MAKSIMOV, V. F., ORLOV, V. G., SHIRYAYEVA, I. M., and
ASTAPOV, A. A., Kuban' State Medical Institute, Krasnodar

"Unusual Changes in the DNA Content of Some Escherichia coli Strains in the
Process of Growth"

Moscow, Doklady Akademii Nauk SSSR, Vol 194, No 6, 1970, pp 1433-1436

Abstract: The amount of DNA and the rate of synthesis were investigated at different stages of growth of three Escherichia coli strains, K-12S, M, and O26. The DNA content of the K-12S strain increased more than threefold at the end of the lag phase as compared with the control. The M strain differed significantly from the K-12S strain in the dynamics of DNA content. At the start of the lag phase, the M strain contained only one-half to one-third as much DNA as the K-12S strain. The E. coli O26 strain was similar to the M strain in this respect. From the start of the lag phase to the stage of logarithmic growth, the amount of DNA decreased by a factor of ~ 2.5 . In K-12S, all of the chromosomes replicated completely, whereas in M and O26 the chromosomes did not replicate completely in either the original or daughter cells. As a result, the rate of DNA synthesis was lower in M and O26 than in K-12S, but these experimental results are preliminary.

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Acc. Nr.: **AP0029496**

Ref. Code: UR 0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 1, pp 46-49

SUPPRESSION OF RTF-FACTOR TRANSFERENCE BY ACRICHIN

A. A. Astapova

The effect of acrichin on transference of multiple drug resistance episoms was studied. The inhibitory effect of acrichin on transference of episoms controlling the antibiotic resistance may be defined by structural peculiarities of episomal DNA complexes with acrichin which must prevent its transference on conjugation.

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REEL/FRAME

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19681097

1/2 012 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--BACTERICIDAL ACTION OF ACRICHINE ON E. COLI AND THE PROCESS OF
TRANSFER OF R FACTORS -U-
AUTHOR--(03)-RYBKINA, L.G., ASTAPOV, A.A., ANOKHINA, R.V.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 5,
PP 122-126
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ESCHERICHIA COLI, BACTERIAL DEOXYRIBONUCLEIC ACID, SHIGELLA,
BACTERICIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1994/0161 STEP NO--UR/0016/70/000/005/0122/0126
CIRC ACCESSION NO--AP0114557
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

2/2 012

CIRC ACCESSION NO--APG114557

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ATTEMPT WAS MADE TO ASCERTAIN THE MECHANISM OF BACTERICIDAL ACTION OF ACRICHINE ON E. COLI AND SH. NEWCASTLEI R(IIXT); A STUDY WAS MADE OF ITS EFFECT ON THE TRANSFER BY CONJUGATION OF RESISTANCE EPISOMES. INVESTIGATIONS CARRIED OUT DEMONSTRATED A MARKED BACTERICIDAL ACTION OF ACRICHINE ON E. COLI AND SH. NEWCASTLEI R(IIXT) AT THE BASIS OF WHICH LAY THE CAPACITY OF ACRICHINE TO FORM COMPLEXES WITH BACTERIAL DNA. THE TRANSFER OF MULTIPLE MEDICINAL RESISTANCE EPISOMAS IN CROSSING THE BACTERIA IS DEPRESSED ON ACCOUNT OF THE SAME CAPACITY OF ACRICHINE. FACILITY: KUBANSKIY MEDITSINSKIY INSTITUT, KRASNODAR.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--20NGV70
TITLE--A COMPARATIVE VALUE OF CLINICO ROENTGENOLOGICAL SYMPTOMS OF
POSTINFARCTION CARDIAC ANEURYSMS -U-
AUTHOR--(G3)-ASTAPOV, B.M., BUGOLYUPOV, V.M., KUZNETSOV, N.S.
COUNTRY OF INFO--USSR A
SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 3, PP 42-46
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--HEART DISEASE, ANEURYSM, RADIOGRAPHY, DIAGNOSTIC MEDICINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1707 STEP NO--UR/0497/70/048/003/0042/0046
CIRC ACCESSION NO--AP0129077
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0129077

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER DEALS WITH OBSERVATIONS OVER 51 PATIENTS WITH POSTINFARCTION CARDIOSCLEROSIS, FO THE LATTER IN 14 CASES ANEURYSM OF THE LEFT CARDIAC VENTRICLE WAS REVEALED. THE CLINICAL SYMPTOMS ARE DESCRIBED AND THE IMPORTANCE OF THE X RAY METHOD IN THE RECOGNITION OF CARDIAC ANEURYSM IS EMPHASIZED. THE SIGNS OF THIS DISEASE ARE DISCUSSED IN DETAIL. ON THE BASIS OF CONFRONTATION OF DATA OF ROENTGENOLOGICAL STUDY, SCANNING OF THE CARDIAC CAVITIES, CLINICAL INVESTIGATION AND, IN A NUMBER OF CASES, AUTOPSY FINDINGS OR DYNAMIC OBSERVATION THE AUTHORS REVIEW THE VALUE OF ROENTGENOLOGICAL SIGNS DURING ROUTINE X RAY INVESTIGATION, ROENTGENOSCOPY, AIMED AND WIDE RANGE ROENTGENOGRAPHIES WITH ROENTGENOGRAMMOMETRY. EMPHASIS IS MADE OF THE FACT THAT SUCH AN X RAY INVESTIGATION DOES NOT ALWAYS ESTABLISH THE DIAGNOSIS OF CARDIAC ANEURYSM, THIS COMPELLING TO SUSPECT THE LATTER AND TO TRANSFER TIMELY THE PATIENT FOR SPECIAL STUDY, INCLUDING ROENTGENKYMIOGRAPHY AND ELECTROKYMIOGRAPHY. THE REFERRED TO TECHNIQUES ARE PARTICULARLY EXPEDIENT FOR THE RECOGNITION OF ANEURYSMS OF THE LEFT CARDIAC VENTRICLE. FACILITY: INSTITUT MEDITSINSKOY RADIOLOGII, AMN, SSSR, CENISK.

UNCLASSIFIED

USSR

UDC 621.373.444

ASTAPOV, N. T., and IOFFE, A. YA.

"A Device for Producing a Random Voltage Distributed According to a Predetermined Law"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 3, 1970, p 128, patent No 260285, filed 5 Nov 68

Abstract: This Author's Certificate introduces a device for producing random voltage distributed according to a predetermined law. The unit contains a NOT circuit, a delay unit, a pulse train generator, and a nonlinear converter. As a distinguishing feature of the patent, the device is simplified by making the nonlinear converter in the form of a sweep oscillator with a sweep which varies according to a law which is the inverse of the function of the predetermined distribution. The output of the nonlinear sweep-oscillator converter is connected to the input of the NOT circuit, the blocking input of the NOT circuit is connected to the output of the pulse counter, and the inputs of the pulse counter and the nonlinear sweep-oscillator converter are connected in parallel to the output of the pulse train generator.

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USSR

UDC: 621.372.414

KOSHURNIKOV, B. A., ~~ASTASHEV, O. M.~~

"A Thermostable Coaxial Cavity"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 9, Mar 72, Author's Certificate No 331460, Division H, filed 4 Jan 70, published 7 Feb 72, p 173

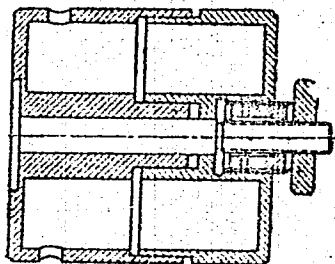
Translation: This Author's Certificate introduces a thermostable coaxial microwave cavity which contains a housing, a rod, and an additional compensating element. The rod and compensating element are made of materials with different temperature coefficients of linear expansion. As a distinguishing feature of the patent, the cavity is designed to ensure high frequency stability and a short time for establishing the frequency when there are rapid changes in temperature. The housing of the microwave cavity is made in the form of two $\lambda/4$ -wave cups which fit into each other. A rod in thermal contact with the cups passes through an axial hole in the inner conductors of the cups. One end of the rod is securely fastened to the bottom of the first cup, and the other end protrudes beyond the limits of the second cup and is connected to the additional compensating element which is made in the form of a sleeve connected at one end to the rod and at the other end to the bottom of the second cup.

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KOSHURNIKOV, B. A., ASTASHEV, O. M., USSR Author's Certificate No 331460



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USSR

UDC 621.822.5

BELYY, V. A., KUPCHINOV, B. I., MIKHNEVICH, A. S., ASTASHIN, V. Ya., and
YEGORENKOV, N. I.

"Bearings with Metal-Polymeric Plating"

Moscow, Mashinostroitel', No 5, May 71, p 24

Abstract: A method of producing strip materials with antifriction metal-polymeric plating has been developed at the Institute of Mechanics of Metal-Polymeric Systems of the Belorussian SSR. The method is described, properties of the new material are discussed, and its high antifriction quality is demonstrated in comparison with the strip material to be replaced. Preliminary results of field tests proved the high efficiency of the new material. Its use for bearing bushings for starters of automotive engines is now being investigated. Three figures.

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AAC052697

ASTASKEVICH, A.M.

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent,

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244063 ALUMINIUM AND ALUMINIUM-ALLOY PARTS
are anodised and then permeated with anti-friction substances. The parts are anodised in two stages, with intermediate heat treatment between. This improves wear resistance and gives a low coeff. of friction. The duration of the first period depends on the thickness of anodised surface required. The second period of 3-8 mins. is done after heat treatment at temps. of 100-160°C or other means of heat and chemical treatment. These conditions enable an anodised film of 80-250 microns to be obtained with channel type porosity between separate layers. After anodising, the parts are neutralised and dried at a temperature of 120-180°C. An anti-friction layer is then applied, e.g. by dusting, of molybdenum disulphide or the like. After drying at polymerisation temps., the anti-friction layer is stuck firmly to the anode film, deeply penetrating its pores. Thickness of the anti-friction layer may be 10-20 microns. The

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Vsesoyuznyy Nauchno-Issledovatel'skiy Institut Zheleznodorozhnogo
Transporta

surface layer obtained is an oxide polymer
composition consisting of a porous oxide film
of 80-200 microns thickness, with hardness 350-
550 kg/sq. mm. and an anti-friction filler.
12.4.67. as 1152768/22-1, ASTASH KEVICH, B.M. &
LARIN, T.V. Rail Transport Inst. (25.9.69)
Bul. 17/14.5.69. Class 48a, Int. Cl. C 23b.

As

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19821490

USSR

UDC: 621.646.3

ASTASHKIN, Ye. I., All-Union "Order of the Red Banner of Labor" Scientific Research Institute of Heat Engineering imeni F. E. Dzerzhinskiy

"A Method of Regulating the Process of Combustion of Liquid Fuel"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztzy, Tovarnyye Znaki, No 2, Jan 73, Author's Certificate No 362176, Division F, filed 5 Mar 70, published 13 Dec 72, p 82

Translation: This Author's Certificate introduces: 1. A method of regulating the process of combustion of liquid fuel in combustion chambers equipped with atomizers with a hollow cone of fuel spray. Regulation is in accordance with a signal which characterizes the fuel flowrate. As a distinguishing feature of the patent, the reliability of combustion regulation in the chambers is improved by using the static pressure of the combustion-chamber gases ejected by the fuel jet into the zone of the outlet nozzle tips as the signal. 2. A modification of this method distinguished by the fact that a localized aerodynamic drag is set up on the path of the ejected gases toward the zone of static pressure measurement to increase the velocities of the gas flows in this zone.

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USSR

UDC 669.721.018.9.4(088.8)

MALAKHOV, A. I., ASTAULOV, V. S.

"Procedure for Purifying Liquid Magnesium Alloys"

USSR Author's Certificate No 273431, Filed 25 Nov 68, Published 21 Sep 70 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G221P)

Translation: A procedure for purifying liquid Mg-alloys by filtering them through a layer of fluoride salts is distinguished by the fact that the fluoride salts in the solid state are used as the filtering layer to improve the casting quality.

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172 009 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--HOMOGENEOUS CATALYTIC HYDROSILYLATION IN THE PRESENCE OF PLATINUM
STYRENE COMPLEXES -U-
AUTHOR--(03)-REYKHSFELD, V.O., ASTRAKHANOV, M.I., KAGAN, YE.G.
COUNTRY OF INFO--USSR
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(3), 699
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PLATINUM COMPLEX, ORGANOSILICON COMPOUND, STYRENE, CHLORINE,
METHYLENE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0883 STEP NO--UR/0079/70/040/003/0699/0699
CIRC ACCESSION NO--AP0124546
UNCLASSIFIED

2/2 C09

UNCLASSIFIED

PROCESSING DATE—30OCT70

CIRC ACCESSION NO--AP0124546

ABSTRACT/EXTRACT—(U) GP-0- ABSTRACT. REACTION OF PHCH:CH SUB2 AND ITS P,CL , P,O SUB2 N, P,ME , 2,4,ME SUB2, OR P,MEO DERIVS. IN THE FORM OF PT COMPLEXES OF TYPE (ZPTCL SUB2) SUB2 WITH MESIHCL SUB2 IN PHSICL SUB3 AS SOLVENT WAS STUDIED. THE PRESENCE OF ANY SUBSTITUENT IN THE STYRENE COMPONENT INCREASED THE RATE OF REACTION IN THE ORDER H, P,CL , 2,4,ME SUB2, P,ME , P,MEO IN THE SERIES OF LIGANDS. THE RATE OF HYDROSILYLATION CAN BE RELATED TO HAMMET CONSTS. OF THESE SUBSTITUENTS BY A U SHAPED CURVE WITH A MIN. AT THE STYRENE COMPLEX. THE INCREASE OF REACTION RATE OF PHCH:CH SUB2 WITH MESIHCL SUB2 WITH INCREASING STABILITY OF THE PT COMPLEX WITH THE INDICATED OLEFINS IS AN ARGUMENT IN FAVOR OF THIS REACTION TAKING A HOMOGENEOUS CATALYTIC ROUTE ON PT CATALYSTS IN WHICH A PT OLEFIN COMPLEX ACTS AS THE INTERMEDIATE.

UNCLASSIFIED

USSR

UDC 627.81.034.001.5(47+57)

ASTRAKHANTSEV, V. I., KUKLIN, A. K., PULYAYEVSKIY, G. M., ROGOZIN, A. A.

"Methods of Studying Bank Processes on the Angar Reservoirs"

Tr. koordinats. soveshchaniy po gidrotekhn. (Works of the Coordinating Meetings on Hydroengineering), No 59, 1970, pp 89-93 (from RZh-Elektrotehnika i Energetika, No 2, Feb 71, Abstract No 2 D44)

Translation: Studies of the following problems are continued: a) the study of geological engineering conditions of the shore zone of Lake Baykal, Irkutsk, Bratsk and Ust'-Ilimskiy Reservoirs; b) introduction of stereophotogrammetric methods; c) development and introduction of instruments and methods of complex study of wind-wave conditions.

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Organ and Tissue Transplantation

USSR

UDC: 616.12-089.843-089.168

FAL'KOVSKIY, G. E., KAZAKOV, E. N., YARLYKOVA, Ye. I., ASTRAKHANTSEVA, G. I.,
ALEKSEYEVA, L. A., KOBKOVA, I. D., SOKOLOV, M. V., GALANKINA, I. Ye., BOL'SHUKHINA,
L. A., and GUDKOVA, R. G., Institute of Cardiovascular Surgery imeni A. N. Bakulev,
Academy of Medical Sciences USSR, Moscow

"The fate of an Heterotopic Heart Allotransplant"

Moscow, Eksperimental'naya Khirurgiya i Anesteziologiya, No 6, Nov/Dec 70, pp 3-12

Abstract: Donor hearts transplanted to the iliac arteries of recipient dogs survived up to 16 days. The causes of cessation of transplant function during the first 48 hours were surgical complications (death of the recipient from the anesthetic, hemorrhages from the sutures, thrombosis). In the absence of such complications, the transplants continued to function 3 to 12 days average, (4.75 days) when immunodepressants were not used, and 3 to 8 days (average, 6.16 days) when they were. Cardiac arrest was preceded by arrhythmias, a decrease in voltage of the ventricular complex, and increase in lymphocytes in the peripheral blood following leukopenia. Immunomorphological changes in the recipient's lymphatic system preceded the morphological signs of rejection in the transplant (pronounced lymphoid-histiocyte infiltration, changes in the arteris, and metabolic disturbances in the myocardium).

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USSR

UDC 621.789:620.186.1

LIVSHITS, B. G., ASTRAKHANTSEVA, N. A., IZGORODIN, A. K., NIKOLAYEVA, V. N., (DECEASED), KHLLOMOV, V. S., and TSVILING, M. YA., Moscow Institute of Steel and Alloys

"Effect of Titanium on the Properties of the Beta- and Beta₂-Phases and Brittleness of Annealed Alloys of the YuNDK35T5 Type"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8, Aug 73, pp 37-40

Abstract: The effect of titanium on the brittleness of type YuNDK35T5 alloys in the equilibrium state at 770°C was studied, and hardness, chemical composition of beta- and beta₂-phases, and their effect on the failure process were determined. The four test samples contained (in wt %): 34-31 Fe, 15 Ni, 8 Al, 35 Co, 4,5,6,7 Ti, and 4 Cu. The chemical composition of the phases is also given. Mechanical tests showed that as titanium content increases so does bend strength, percentage of cases of bending with cracks of the beta-phase, and percentage of cases of cessation of beta-phase precipitation, while decreases were noted for the number of secondary cracks in one sample, percentage of branch cracks, and beta-phase microhardness. The value of the critical temperature was determined for alloys YuNDK35T5 and YuNDK40T7 which has been 1/2

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LIVSHITS, B. G., et al., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8, Aug 73, pp 37-40

arc melted and annealed at 770°C for 2500 hours. T_{cr} was 680 and 700°C , respectively. The effect of the β - and β_2 -phases on alloy failure for the varying titanium content was explained in that in all the studied alloy samples a crack passes into the β_2 -phase and bends the β -phase precipitate. With increased Ti content, the attempt of cracks to bend β -phase precipitates grows. In the alloy with 4% Ti, in 30 cases out of 100, cracks bend in their advancement of the β -phase, and in the alloy with 7% Ti, in 65 cases out of 100. Crack cessation occurs, as a rule, in the β -phase precipitations. This indicates that the β -phase is less brittle than the β_2 -phase and that with increased Ti content the β -phase does a better job than the β_2 -phase in hindering the advancement of a brittle crack. Three figures, two tables, five bibliographic references.

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USSR

UDC 541.49:546.841

SERGEYEV, G. M., ASTRASHKOVA, L. G., and YAGODINSKAYA, N. N.

"Complexation of Th(IV) With Acetic Acid by pH-Potentiometric Titration"

Moscow, Radiokhimiya, Vol 12, No 2, 1970, pp 392-393

Abstract: A study was made of complexation of Th(IV) with acetate ions by pH potentiometry. To prevent hydrolysis of the metal, thorium nitrate is dissolved in $5 \cdot 10^{-3}$ M HNO_3 . Total concentration of thorium ions in all experiments was $5 \cdot 10^{-3}$ M, and the concentration of acetate ions varied from $5 \cdot 10^{-3}$ to $7.5 \cdot 10^{-2}$ M. Titration was conducted with carbonate-free potassium hydroxide in a thermostated cell at $t = 25 \pm 0.05^\circ$. Preliminary experiments showed that in the ligand concentration range $5 \cdot 10^{-3}$ to $2 \cdot 10^{-2}$ M, formation constants of complex thorium ion did not remain constant, evidently owing to competing hydrolysis. However, at acetate ion concentrations higher than $4 \cdot 10^{-2}$ M, stability constants of complexes were constant within limits of experimental error.

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1/2 008 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--COMPLEXING OF THORIUM IV WITH ACETIC ACID STUDIED BY POTENTIOMETRIC
TITRATION -U-
AUTHOR-(03)-SERGEYEV, G.M., ASTRASHKOVA, L.G., YAGODINSKAYA, N.N.
COUNTRY OF INFO--USSR
SOURCE--RADIOKIMIYA 1970, 12(2), 392-3
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--THORIUM COMPOUND COMPLEX COMPOUND, ACETIC ACID, POTENTIOMETRIC
TITRATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/1229 STEP NO--UR/0186/70/012/002/0392/0393
CIRC ACCESSION NO--AP0128645
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0128645

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FORMATION OF TH, ACETATE COMPLEXES TH,ACO PRIME3 POSITIVE (LOG K SUB1 EQUALS 3.1) AND TH(ACO) SUB2 PRIME2 POSITIVE (LOG K SUB2 EQUALS 3.2) (K IS STABILITY CONST.) IS STUDIED BY POTENTIOMETRIC TITRN. WITH KOH OF A C SUBTH PRIME4 POSITIVE SLIGHTLY ACID SOLN. HAVING PH IS LESS THAN OR EQUAL TO 3, TH PRIME4 POSITIVE CONC. 0.005M, ACETATE ION CONC. 0.005-0.075M, TEMP. 25.0 DEGREES, IONIC STRENGTH 0.5 (KNO SUB3), AND HOAC DISSOC. CONST. (3.04 PLUS OR MINUS 0.03) TIMES 10 PRIME NEGATIVE 5. THE K SUB1 AND K SUB2 WERE DETD. FOR ACETATE CONCNS. OF 0.04, 0.05, AND 0.075M.

UNCLASSIFIED

USSR

UDC: 519.2

ASTRATOV, O. S.

"Some Statistical Characteristics of a Column of Permutations"

Tula, Vopr. televizionno-vychisl. tekhn.--sbornik (Problems of Television and Computer Technology--collection of works), 1972, pp 71-77 (from RZh-Kibernetika, No 7, Jul 73, abstract No 7V196 by V. Kolchin)

Translation: The author analyzes statistical characteristics of a transposed video signal as a function of the period of transposition. For this purpose, two independent uniformly distributed random quantities are added.

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USSR

UDC 621.391.8:519.27

ASTRATOV, O. S., LIKARPENKOV, V. G., SORIN, V. Ya.

"Problems of Spectrum Conversion in Variable Transposition"

Tr. Leningr. in-t aviats. priborost. (Works of the Leningrad Institute of Aircraft Instrument Building), 1971, vyp. 69, pp 26-32 (from RZh-Radiotekhnika, No 7, Jul 71, Abstract No 7A50)

Translation: The authors analyze passage of a harmonic signal through a system which provides time transposition of its individual sections. It is shown that the spectrum of the output signal contains a set of harmonics which are symmetrically arranged relative to the frequency of the input signal at a distance which is a multiple of the transposition period. It is proved that individual harmonics in the output signal spectrum (including harmonics on the input signal frequency) may be absent for certain frequencies with some transposition laws. Resumé.

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USSR

A
UDC: 621.396.75

ASTRETISOV, D. V., KRIVITSYN, V. G.

"Statistical Synthesis of Optimum Non-Tracking Direction Finders Which Utilize Instantaneous Phase Comparison of Received Signals"

Tr. Ural'skogo politekhn. in-ta (Works of the Ural Polytechnical Institute), 1970, sb. 183, pp 67-73 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7G80)

Translation: The method of maximum plausibility is used to obtain schematic diagrams of optimum direction finders which implement instantaneous phase comparison of received signals. Each circuit is a combination of a phase angle data unit and an optimum amplitude angle discriminator. It is pointed out optimum non-tracking phase DF circuits depend on the shape of the amplitude patterns of the antennas which are used. The angle discriminators for directed antennas differ only in the method of normalization. The given diagrams may be recommended for use in the improvement of existing systems. Three illustrations, bibliography of three titles.
A. M.

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1/2 013 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--EXOTHERMIC MIXTURE FOR STEEL POURING -U-
AUTHOR--(05)-ASTROV, YE.I., KLIPOV, A.D., KONYSHEV, V.I., LEYBOVICH, P.M.,
PAKHOMOV, N.A.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 262,329
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970 47(6)
DATE PUBLISHED--26JAN70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--METALLURGIC PATENT, METALLURGIC PLANT, EXOTHERMIC PROCESS,
SLAG, FOUNDRY TECHNOLOGY, STEEL MANUFACTURE PROCESS, FLUORITE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3001/1462 STEP NO--UR/0482/70/000/000/0000/0000
GIRC ACCESSION NO--AA0126993
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AA0126993

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN EXOTHERMIC MIXT., FOR PREPG.
SLAG DURING THE CASTING OF STEEL, HAS THE FOLLOWING COMPN. SILICOCALCIUM
25-35, CA, (NO SUB3) SUB2 OR KNO SUB3 5-15, FE CINDER 20-5, A SUBSTANCE
CONTG. B OXIDES 1-10 WT. PERCENT, AND FLUORITE THE REMAINDER.
FACILITY: GORKOVSKIY METALLURGICHESKIY ZAVOD.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--EFFECT OF KILLING TECHNOLOGY ON THE PROPERTIES OF A STEEL WITH
REDUCED HARDENABILITY -U
AUTHOR--ASTROV, YE.I., LOGANOV, M.I., URAZOVA, V.A., CHICKHANOV, A.I.
COUNTRY OF INFO--USSR
SOURCE--METALLOVED. TERM. OBRAB. METAL. 1970, (2) 55-7
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--NONMETALLIC INCLUSION, KILLED STEEL, ALUMINUM CONTAINING
STEEL, STEEL MANUFACTURE PROCESS, STEEL HARDENING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1988/1291 STEP NO--UR/0129/70/000/002/0055/0057
CIRC ACCESSION NO--AP0106072
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0106072

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TWO METHODS OF KILLING WERE USED: (1) DEEP KILLING IN THE FURNACE WITH FERROSILICON, FERROTITANIUM, AND AL; (2) DEEP KILLING IN THE FURNACE WITHOUT SI, BUT WITH AL AND FERROTITANIUM. SI, WITH ADDNL. PORTIONS OF AL, WERE INTRODUCED INTO THE LADLE THE STEEL WAS KILLED. TO EXCLUDE THE EFFECT OF CHEM. COMPN. OF THE STEELS ON HARDENABILITY, ALL OF THE EXPTL. MELTS WERE COMPOSED OF SINGLE CHEM. COMPNS. HARDENABILITY WAS DETD. BY ROCKWELL HARDNESS ALONG END QUENCHED CYLINDRICAL SPECIMENS. MELTS, DEEP KILLED WITHOUT SI, WITH SI ADDED TO THE LIQ. STEEL FOLLOWED BY AL AND FERROTITANIUM, SHOW LOWER HARDENABILITY AND CONTAIN LESS AMTS. OF O AND NONMETALLIC INCLUSIONS.

UNCLASSIFIED

ASTROV N.A.

AAO101376

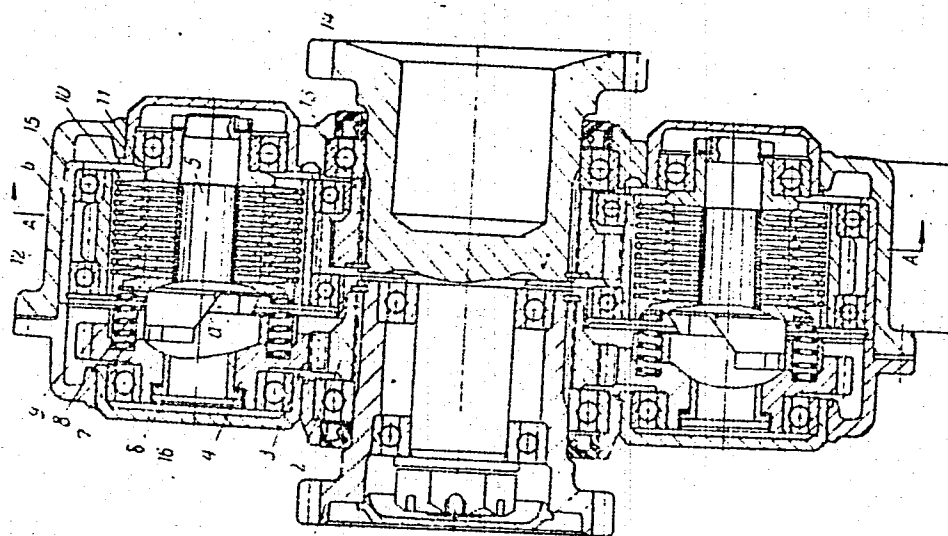
UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, 2-70

238304 FRICTIONAL MULTI-DISC PLANETARY TWO-ROW
SPEED CHANGER containing sets of friction-
bevelled pairs of discs 9 and 10 with internal
contact which differs, in order to provide greater
efficiency, simpler gear-ratio control and greater
range, in having the planet wheels in the form of
gears with the first row 3 on shafts 5 carrying
the small diameter discs and the second row 12
made hollow to contain the large diameter discs.
For control of the gear ratio the hollow planet
wheels 12 are set in a rotating ring 15 that is
coaxial with housing 6, so that the ratio can be
changed by turning ring 15 in relation to housing
6. 26.2.65. as 945823/25-28. N.A ASTROV et al.
Car and Engine Res. Inst. and Mitishchi Machine
Bldg Works. (3.7.69.) Bul.9/20.2.69. Class 47h.
Int.Cl. F06h.

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19851213

AA0101370



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19851214

AA0101376

AUTHORS: Astrov, N. A.; Yerokin, V. V.; Klemin, A. N.; Leonov,
V. I.; Petrushov, V. A.; Speranskiy, N. G.; Strigin, I. A.

Tsentral'nyy Nauchno-Issledovatel'skiy Avtomobil'nyy i Avtomotornyy
Institut i Mytishchinskiy Mashinostroitel'nyy Zavod

3/3

19851215

USSR

UDC: 681.327

ASTSATUROV, R. M., KONDRAT'YEV, A. P., MAL'TSEV, N. A., PASHKOVSKAYA, R. B.

"A Device for Checking an Operational Memory"

USSR Author's Certificate No 333559, filed 9 Jul 70, published 7 Jun 72
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 1, Jan 73, abstract No 1B378 P)

Translation: The proposed device pertains to the field of computer technology. It can be used for checking an immediate-access memory. Devices for checking an immediate-access memory are known which can be used to monitor mod-2 readout data. The known devices for monitoring an immediate-access memory do not provide for checking the correctness of operation of the address decoding channel through which data reading takes place (access to the memory).

The proposed device uses an additional shaping circuit for forming a mod-g control code. This circuit simultaneously "displaces" the data and memory address registers. Also incorporated in the proposed device is a control code conversion unit. These modifications not only provide a more effective check on data readout but also verify correspondence between the

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USSR

ASTSATUROV, R. M. et al., USSR Author's Certificate No 333559

readout data and the address with respect to which the reading has occurred; i. e., the operation of the address decoder can be monitored. Besides this, the device provides further monitoring of readout data with respect to a modulus of two, in order not to violate the principle of "continuous" monitoring.

Since increasing the effectiveness of monitoring requires using an additional shaping modulus greater than two (usually $g \geq 3$), the memory word must have at least two control digits for storing a mod- g control code. In modern computers, several data units are stored simultaneously in a memory (with their own control digits), so there is no need to add memory digits to realize the proposed monitoring device.

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USSR

UDC: 681.325.5

KONDRAT'YEV, A. P., ASTSATUROV, R. M., MAL'TSEV, N. A., TIKHOVICH, Yu. V.

"Tabular Adder-Multiplier"

USSR Authors' Certificate No 253442, Filed 11 January 1968, Published 25 February 1970 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, 1970, Abstract No 10B224P, by V. M.)

Translation: The tabular adder-multiplier (TAM) suggested, consisting of a memory unit, tabular address forming circuit, registers (R), first (1) and second (2) operands (0), and control device is simplified and the time required to perform operations is reduced by the use of result output and analysis units. The inputs of the analysis units are connected to the outputs of the R of the first and second 0, while the outputs are connected through AND circuits to the inputs of the first and second OR circuits of the result output unit. The output of the first OR circuit of the result output unit is connected to the input of the interrogation circuit of the R of the second 0, the output of which is connected to the flip-flops of the R of the second 0. The output of the second OR circuit in the result output unit is connected to the input of the interrogation circuit of the R of the first 0, the input of which is connected to the flip-flops of the R of the first 0. One illustration.

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USSR

UDC 577.1:615.7/9

ABIDIN, B. I., ASYAMOLOVA, N. M., SGIBNEV, A. K.

"Effect of Certain Toxic Gaseous Substances on the Resistance of Animals to Acute Hypoxic Hypoxia"

Moscow, V sb. Probl. kosmich. biol. (Problems of Space Biology--collection of works), Vol 16, "Nauka," 1971, pp 154-164 (from RZh-Biologicheskaya Khimiya, No 21, Nov 71, Abstract No 21F2185)

Abstract: The complex gas-air mixture resulting from thermo-oxidative destruction of a synthetic polymer based on pentaerythritol and fatty acids contained gaseous products belonging to various classes of compounds: esters, aldehydes, ketones, organic acids, alcohols, carbon monoxide and various other substances. Animals were inoculated in a 100-liter hermetically sealed chamber by a static method with exposure of one hour. Comparative data are presented on the change in EEG, EKG, and respiration of inoculated and intact rats under conditions of a rarefied atmosphere corresponding to an altitude of 10,000 meters. It was found that the gaseous chemical substances change the behavior of the organism

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USSR

ABIDIN, B. I., et al, V sb. Probl. kosmich. biol., Vol 16, "Nauka," 1971, pp 154-164

of the animals with respect to the action of hypoxic hypoxia, lowering the "physiological ceiling," and increasing the tolerance of acute oxygen starvation. Resume.

2/2

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USSR

UDC: 51

ASYLKOZHAYEV, K. A., TSEREVITINOV, B. F., YAROVITSKIY, N. V.

"Controlling the Quality of Goods in the Warehouse Storage Process"

V sb. Mat. metody issled. i optimiz. sistem (Mathematical Methods of Studying and Optimizing Systems--collection of works), Kiev, 1971, pp 123-135 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V570)

[No abstract]

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USSR

UDC 615.285.7.015:551.581(213)

A
ATABAYEV, Sh. T., KHASANOV, Yu. U., and NAZAROVA, L. S., Candidates of Medical Sciences, Uzbek Scientific Research Institute of Sanitation, Hygiene, and Occupational Diseases

"Persistence of the Pesticide Aldrin in a Hot Climate"

Moscow, Gigiyena i Sanitariya, No 4, 1970, pp 108-109

Abstract: Aldrin is used in Tashkent, Andizhan, Fergana, and Khorezm oblasts to treat cotton seeds and control various insects. The pesticide tends to disappear fairly quickly in the upper soil layers due to the effect of high temperature (decomposition), microbiological processes, uptake by plants, and removal by irrigation. However, it was found to persist in the 70-100 cm layer for 5 years or more. The amount persisting varies with the soil group. The residue is greater in meadow-bog soils than in clayey or sandy soils, because there is more organic matter and, consequently, greater uptake of aldrin in the former than in the latter. Aldrin constitutes a health hazard because soils sprayed with it or soils in which treated seeds of plants are grown become a secondary source of pollution of open bodies of water, which are used by a large part of the Uzbek population for drinking and household purposes.

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USSR

UDC 614.79:613.12(575.1)

ATABAYEV, Sh. T. and GELLER, I. M., Uzbek Scientific Research Institute of Sanitation, Hygiene, and Occupational Diseases, Tashkent

"Main Hygiene Problems in the Planning of Settlements in the Hot Climate of Uzbekistan"

Moscow, Gigiyena i Sanitariya, No 2, 1971, pp 3-6

Abstract: An inspection of a number of state farms built from 1958 to 1968 in Uzbekistan revealed many design and structural defects affecting the comfort and health of the farm workers. Poorly chosen materials and architectural plans resulted for the most part in the construction of houses that are too hot in the summer and too cold in the winter. Slow installation of sewer pipes and inadequate water sources led to the improvisation of facilities well below minimum sanitary standards. Another serious shortcoming is the absence of buffer zones between the fields and residential areas. The result is that the people are frequently exposed to dangerous concentrations of insecticides sprayed on crops, especially when planes are used for this purpose. The article concludes with concrete recommendations to planners of rural development.

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USSR

UDC 621.382.2

ADIROVICH, E. I., ATABAYEVA, A. N., RUBINOV, V. M., YUABOV, YU. M.

"Silicon as a Material for Dielectric Electronics"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 5, No 11, 1971, pp 2052-2057

Abstract: An experimental study was made of the conditions under which dielectric conditions occur in silicon, that is, the current is determined by the electrode emission instead of the carrier concentration in the material itself. The method of two-way diffusion alloying was used to introduce copper from an aluminum melt into plates of high-resistant silicon ($\rho \sim 10^4$ ohms-cm) ~ 100 microns thick. This method insured the possibility of controllable and reproducible production of a thin (~ 10 microns) layer of high-resistant silicon between two p^+ -type regions acting as emitting electrodes. The conditions for a space charge limited emission current were realized in the region of quite low voltages (0.1-10 volts) with variation of the current by 3-4 orders (10^{-5} - 10^{-2} amps).

A series of control experiments is described showing that in $M-p^+-p^+-M$ structures manufactured by this method, space charge limited currents actually occur. Effective devices for dielectric electronics can be built on the basis of silicon and other ideal monocrystalline semiconductors with high mobility.

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USSR

UDC 576.858.8

NOVIKOV, V. K., KIMAYEV, V. Z., and ATABEKOB, I. G., Moscow State University
imeni M. V. Lomonsova

"Reconstitution of Nucleoprotein of Potato Virus X"

Moscow, Doklady Akademii Nauk SSSR, Vol 204, No 5, 1972, pp 1259-1262

Abstract: Potato virus X was used to study the mechanism of reconstitution, as the protein of this virus consists of two components of different weights which do not spontaneously repolymerize in the absence of RNA. The virus, obtained from infected thorn apples (*Datura stramonium* L.), was dissociated into protein and infective RNA by incubation with CaCl_2 . After purification, the reconstitution was carried out by incubation of a mixture of the two components in a low ionic strength buffer. The ratio of total nucleoprotein yield observed spectrophotometrically from one cycle of differential centrifugation to the theoretical maximum was used to measure the effectiveness of reconstitution. This ratio was highest at a concentration of 0.01 M for tris-HCl buffer, and 0.001 M for phosphate buffer. In distilled water, or buffers of lower ionic strength, the ratio D_{260}/D_{280} of the nucleoprotein differed from that of the crude virus. However the ratio returned to normal following reprecipitation in the ultracentrifuge or treatment with pancreatic RNAase.

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USSR

NOVIKOV, V. K., et al., Doklady Akademii Nauk SSSR, Vol 204, No 5, 1972, pp 1259-1262

The nucleoprotein yield sharply declined with increasing salt concentration. Studies were also made of the kinetics of optimum pH (6.5-7.0) of the process at 20°C. In addition, electron microscopy showed particles of varying length, with a diameter equal to that of crude potato virus X. Infectivity of the reconstituted viruses was low. The UV spectra of reconstituted and crude viruses were very close, and their antigenicity identical, even though the protein component is only antigenically related to the crude virus. The reconstituted material was observed to be heterogeneous and to have a lower coefficient of sedimentation of analytical centrifugation. The fact that low ionic strength is optimal for this process suggested that the RNA-protein interaction is basically ionic. Particles with similar appearance under electron microscopy, identical antigenicity, similar UV spectra and similar yields to reconstituted potato virus were obtained by mixing virus protein with RNA of broom grass mosaic, tobacco mosaic, or barley streak mosaic viruses, or *Escherichia coli* ribosomal RNA. However none of these showed infectivity.

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USSR

AGOL, V. I., ATABEKOV, I. G., KRYLOV, V. N., and TIKHONENKO, T. I., Molekularnaya Biologiya Virusov, (Molecular Biology of Viruses), Moscow, "Nauka," 1971, 493 pp

Annotation: This book is in the form of a monograph devoted to molecular biology and the molecular genetics of viruses. It correlates contemporary achievements in the study of biochemistry and the ultrafine structure of viruses and discusses in detail the chemical composition of viruses, the chemistry of viral proteins and nucleic acids, as well as other constituents, including enzymes. A detailed examination is also made of the diverse and complex problem of the interaction of viruses and proteins. Special attention in the book is paid to the genetics of viruses.

The book is intended for scientific workers in various fields: virologists, biochemists, microbiologists, biologists, medical and veterinary workers and those employed in agriculture, as well as a guide for senior biology students in university departments and medical institutes.

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USSR :

AGOL, V. I., Molecular Biology of Viruses, Moscow, "Nauka," 1971, 493 pp

4. KRYLOV, V. N., Viral genetics

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USSR

AGOL, V. I., Molecular Biology of Viruses, Moscow, "Nauka," 1971, 493 pp

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USSR:

AGOL, V. I., Molecular Biology of Viruses, Moscow, "Nauka," 1971, 493 pp

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1/2 031 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE---MULTIPARAMETER AUTONOMOUS EEG ANALYZER FOR OPERATIVE TESTING OF THE
FUNCTIONAL STATE OF A HUMAN OPERATOR -U-
AUTHOR--(05)-ATABEKYANTS, A.I., AKHUTIN, V.M., BUNDZEN, P.V., KUCHUK, G.A.,
NEROSLAVSKIY, I.A.
COUNTRY OF INFO--USSR
SOURCE--FIZIOLOGICHESKII ZHURNAL SSSR, VOL. 56, MAR. 1970, P 443-446
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--MEDICAL APPARATUS, ELECTROENCEPHALOGRAPHY, BRAIN, BIOPOTENTIAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/0676 STEP NO--UR/0239/70/056/000/0443/0446
CIRC ACCESSION NO--AP0117901
UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0117901

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BRIEF DESCRIPTION OF A PORTABLE AUTONOMOUS COMPLEX EEG ANALYZER WHICH MAKES IT POSSIBLE TO PERFORM CONTINUOUS PROCESSING OF BRAIN BIOPOTENTIALS WITH RESPECT TO A NUMBER OF AMPLITUDE, PHASE, AND FREQUENCY PARAMETERS. THE DEVICE CONSISTS OF THREE PAIRED FREQUENCY FILTERS, THREE CHANNELS FOR MEASURING PHASE SHIFTS BETWEEN ANY TWO EEG LEADS, AND A CHANNEL FOR ANALYZING THE OSCILLATION FREQUENCY OF THE ENVELOPE OF THE MAIN RHYTHM. THE DEVICE IS DISTINGUISHED BY THE POSSIBILITY OF PERFORMING CONTINUOUS COMPLEX MEASUREMENTS OF BIOELECTRIC ACTIVITY WITHOUT THE USE OF EXPENSIVE COMPUTER HARDWARE AND WITHOUT REQUIRING THE PARTICIPATION OF HIGHLY QUALIFIED ENGINEERING PERSONNEL IN THE EXPERIMENTS. FACILITY: AKADEMIIA MEDITSINSKIKH NAUK SSR SEVERO ZAPADNYI ZAOCHNYI POLITEKHNICHESKII INSTITUT, LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC: 621.396.6.002

ATAPONOV, M. I.

"Digital Computer Optimization of Radio Equipment Modules From Boundary Test Graphs"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 3 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 3), Novosibirsk, 1970, pp 139-141 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V459)

Translation: The author notes the disadvantages of the method of optimizing modules from boundary test graphs, and discusses the possibility of eliminating these disadvantages by using a digital computer. To do this, the region of no-failure operation must be analytically approximated from the boundary test graphs; the resultant region of no-failure operation is fed into the digital computer. Singularities of the algorithm for optimization are considered. A report is given on an experiment in using this algorithm in designing a micromodular symmetric flip-flop. N. S.

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USSR

UDC 535

VUKS, M. F., ~~ATAKHODZHAYEV~~, A. K., TUKHVATULLIN, F. Kh.

"An Extremity of the Rayleigh Scattering Line of Light in Liquid and Relaxation Phenomena"

V sb. Sovrem. probl. fiz. khimii (Modern Problems of Chemical Physics -- Collection of Works), Vol. 5, Moscow, Moscow University, 1970, pp 210-222 (from RZh-Fizika, No 7, Jul 71, Abstract No 7D918)

Translation: The distribution of intensity in the near region of the extremity of a Rayleigh scattering line of light was investigated for 18 liquids: CS_2 , benzene, toluene, and a number of substitutes for benzene and toluene. It was shown that in determining the relaxation time τ from the broadening of the scattering line, the best results are given by measurements in the region where the intensity drops by a factor of 4-18. The effect of the dimensions and shapes of molecules on the width of the scattering line was investigated. Greater values of τ correspond to molecules of greater dimensions. Analysis of experimental data shows that the Debye relationship relating τ of the reorientation of the molecules with the viscosity of the medium is suitable for spherical molecules. The effect of solvents on the value of τ and the shape of the scattering line was investigated. Reasons for deviations of the intensity distribution from the dispersion distribution at the extremities of the line are discussed. Also investigated was the effect of temperature on the distribution of intensity in the shape of the Rayleigh scattering line. 25 ref. E. V. B.

1/2 043 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--KINETICS AND MORPHOLOGY OF NONISOTHERMAL CRYSTALLIZATION IN
POLYMERS DURING DEFORMATION -U-
AUTHOR-(04)-ATAKHODZHAEV, I.K., MANN, G., BARANOV, V.G., FRENKEL, S.YA.
COUNTRY OF INFO--USSR **A**
SOURCE--FASERFORSCH. TEXTILTECH. 1970, 21(4), 145-52
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS, PHYSICS.
TOPIC TAGS--CRYSTALLINE POLYMER, POLYETHYLENE, POLYPROPYLENE, THERMAL
EFFECT, X RAY STUDY, SPHERULITE, STRESS DISTRIBUTION, CRYSTALLIZATION,
MATERIAL DEFORMATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1995/1247 STEP NO--GE/0083/70/021/004/0145/0152
CIRC ACCESSION NO--AP0116709
UNCLASSIFIED

USSR

UDC 621.391.826:621.397.62

ATAKHONOV, R. M., LEBEDEV, D. S., and YAROSLAVSKIY, L. P.

"Pulse Noise Suppression in a Television Receiver"

Moscow, Tekhnika kino i televideniya, No. 7, 1971, pp 55-57

Abstract: The noise dealt with in this article originates either in industrial appliances or in the receiver itself, and is manifested as chaotic pulses of random amplitude and of the duration of one scanning element. The authors obtain an algorithm for the filtration of the noise on the basis of the radical difference between the nature of the pulse noise and of the image signal. This algorithm is found by using the theory of statistical solutions if the a posteriori distribution of the transmitted image and the form of the function for the losses connected with the difference between the transmitted and reproduced images are known. The distribution of the difference between the video signal for a given element of the image and its value predicted for the surrounding elements is taken as the a posteriori distribution value. On the basis of the obtained algorithm, a filtration system is worked out and its block diagram given. It was developed in transistorized form, in 20 stages, and tested; the results of the test are shown in the form of contrasted photographs of television images with and without the filter.

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CIRC ACCESSION NU--AP0110- ABSTRACT. THE EFFECTS OF TENSION
ABSTRACT/EXTRACT--(U) GP-0- AFFECTING THE NONISOTHERMAL CRYSTN. OF TYPICAL CRYST. POLYMER
LOW OR HIGH D. POLYETHYLENE AND ISOTACTIC POLYPROPYLENE) UNDER TENSION
WERE EXAMD., CONSIDERING QUANT. THE EFFECTS OF TEMP. AND STRESS
VARIATIONS ALONG THE DEFORMATION REGION. THE RESULTS OBTAINED BY X RAY
ANAL. AND OPTICAL ANAL. ARE DISCUSSED, REFERRING TO PREVIOUS DATA ON
POLYMER CRYSTN. KINETICS AND MORPHOL. AND THE FLATTENING OF SPHERULITES.
FACILITY: INST. HOCHMOL. VERBINDUNGEN, LENINGRAD, USSR.

UNCLASSIFIED

USSR:

AGOL, V. I., Molecular Biology of Viruses, Moscow, "Nauka," 1971, 493 pp

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USSR:

AGOL, V. I., Molecular Biology of Viruses, Moscow, "Nauka," 1971, 493 pp

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AGOL, V. I., Molecular Biology of Viruses, Moscow, "Nauka," 1971, 493 pp

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1/2 031
UNCLASSIFIED
PROCESSING DATE--16OCT70
TITLE--MULTIPARAMETER AUTONOMOUS EEG ANALYZER FOR OPERATIVE TESTING OF THE
FUNCTIONAL STATE OF A HUMAN OPERATOR -U-
AUTHOR--(05)-ATABEKYANTS, A.I., AKHUTIN, V.M., BUNDZEN, P.V., KUCHUK, G.A.,
NEROSLAVSKIY, I.A.
COUNTRY OF INFO--USSR
SOURCE--FIZIOLOGICHESKII ZHURNAL SSSR, VOL. 56, MAR. 1970, P 443-446
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MEDICAL APPARATUS, ELECTROENCEPHALOGRAPHY, BRAIN, BIOPOTENTIAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/0676

STEP NO--UR/0239/70/056/000/0443/0446

CIRC ACCESSION NO--AP0117901

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

2/2 031

CIRC ACCESSION NO--AP0117901

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. BRIEF DESCRIPTION OF A PORTABLE AUTONOMOUS COMPLEX EEG ANALYZER WHICH MAKES IT POSSIBLE TO PERFORM CONTINUOUS PROCESSING OF BRAIN BIOPOTENTIALS WITH RESPECT TO A NUMBER OF AMPLITUDE, PHASE, AND FREQUENCY PARAMETERS. THE DEVICE CONSISTS OF THREE PAIRED FREQUENCY FILTERS, THREE CHANNELS FOR MEASURING PHASE SHIFTS BETWEEN ANY TWO EEG LEADS, AND A CHANNEL FOR ANALYZING THE OSCILLATION FREQUENCY OF THE ENVELOPE OF THE MAIN RHYTHM. THE DEVICE IS DISTINGUISHED BY THE POSSIBILITY OF PERFORMING CONTINUOUS COMPLEX MEASUREMENTS OF BIOELECTRIC ACTIVITY WITHOUT THE USE OF EXPENSIVE COMPUTER HARDWARE AND WITHOUT REQUIRING THE PARTICIPATION OF HIGHLY QUALIFIED ENGINEERING PERSONNEL IN THE EXPERIMENTS. FACILITY:

AKADEMIIA MEDITSINSKIKH NAUK SSR SEVERO ZAPADNYI ZAOCHNYI
POLITEKHNICHESKII INSTITUT, LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC: 621.396.6.002

ATAFONOV, M. I.

"Digital Computer Optimization of Radio Equipment Modules From Boundary Test Graphs"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 3 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 3), Novosibirsk, 1970, pp. 139-141 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V459)

Translation: The author notes the disadvantages of the method of optimizing modules from boundary test graphs, and discusses the possibility of eliminating these disadvantages by using a digital computer. To do this, the region of no-failure operation must be analytically approximated from the boundary test graphs; the resultant region of no-failure operation is fed into the digital computer. Singularities of the algorithm for optimization are considered. A report is given on an experiment in using this algorithm in designing a micromodular symmetric flip-flop. N. S.

1/1

UDC 535

USSR

VUKS, M. F., ~~ATAKHODZHAYEV~~, A. K., TUKHVATULLIN, F. Kh.

"An Extremity of the Rayleigh Scattering Line of Light in Liquid and Relaxation Phenomena"

V sb. Sovrem. probl. fiz. khimii (Modern Problems of Chemical Physics -- Collection of Works), Vol. 5, Moscow, Moscow University, 1970, pp 210-222 (from RZh-Fizika, No 7, Jul 71, Abstract No 7D918)

Translation: The distribution of intensity in the near region of the extremity of a Rayleigh scattering line of light was investigated for 18 liquids: CS₂, benzene, toluene, and a number of substitutes for benzene and toluene. It was shown that in determining the relaxation time τ from the broadening of the scattering line, the best results are given by measurements in the region where the intensity drops by a factor of 4-18. The effect of the dimensions and shapes of molecules on the width of the scattering line was investigated. Greater values of τ correspond to molecules of greater dimensions. Analysis of experimental data shows that the Debye relationship relating τ of the reorientation of the molecules with the viscosity of the medium is suitable for spherical molecules. The effect of solvents on the value of τ and the shape of the scattering line was investigated. Reasons for deviations of the intensity distribution from the dispersion distribution at the extremities of the line are discussed. Also investigated was the effect of temperature on the distribution of intensity in the shape of the Rayleigh scattering line. 26 ref. E. V. B.

1/2 043 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--KINETICS AND MORPHOLOGY OF NONISOTHERMAL CRYSTALLIZATION IN
POLYMERS DURING DEFORMATION -U-
AUTHOR-(04)-ATAKHODZHAEV, I.K., MANN, G., BARANOV, V.G., FRENKEL, S.YA.
COUNTRY OF INFO--USSR
SOURCE--FASERFORSCH. TEXTILTECH. 1970, 21(4), 145-52
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS, PHYSICS

TOPIC TAGS--CRYSTALLINE POLYMER, POLYETHYLENE, POLYPROPYLENE, THERMAL
EFFECT, X RAY STUDY, SPHERULITE, STRESS DISTRIBUTION, CRYSTALLIZATION,
MATERIAL DEFORMATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1995/1247

STEP NO--GE/0083/70/021/004/0145/0152

CIRC ACCESSION NO--AP0116709

UNCLASSIFIED

USSR

UDC 621.391.828:621.397.62

ATAKHONOV, R. M., LEBEDEV, D. S., and YAROSLAVSKIY, I. P.

"Pulse Noise Suppression in a Television Receiver"

Moscow, Tekhnika kino i televideniya, No. 7, 1971, pp 55-57

Abstract: The noise dealt with in this article originates either in industrial appliances or in the receiver itself, and is manifested as chaotic pulses of random amplitude and of the duration of one scanning element. The authors obtain an algorithm for the filtration of the noise on the basis of the radical difference between the nature of the pulse noise and of the image signal. This algorithm is found by using the theory of statistical solutions if the a posteriori distribution of the transmitted image and the form of the function for the losses connected with the difference between the transmitted and reproduced images are known. The distribution of the difference between the video signal for a given element of the image and its value predicted for the surrounding elements is taken as the a posteriori distribution value. On the basis of the obtained algorithm, a filtration system is worked out and its block diagram given. It was developed in transistorized form, in 20 stages, and tested; the results of the test are shown in the form of contrasted photographs of television images with and without the filter.

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2/2 043

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0116709

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE MOST IMPORTANT PROCESSES AFFECTING THE NONISOTHERMAL CRYSTN. OF TYPICAL CRYST. POLYMERS (I.E., LOW OR HIGH D. POLYETHYLENE AND ISOTACTIC POLYPROPYLENE) UNDER TENSION WERE EXAMD., CONSIDERING QUANT. THE EFFECTS OF TEMP. AND STRESS VARIATIONS ALONG THE DEFORMATION REGION. THE RESULTS OBTAINED BY X RAY ANAL. AND OPTICAL ANAL. ARE DISCUSSED. REFERRING TO PREVIOUS DATA ON POLYMER CRYSTN. KINETICS AND MORPHOL. AND THE FLATTENING OF SPHERULITES. FACILITY: INST. HOCHMOL. VERBINDUNGEN, LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 531.787.913.087.92

ATAKULOV, B.A., AFUZOV, A.YA., BILYALOV, E.I., OLIMOV, KH., FAYZIYEV, P.R.

"Concerning Strain Resistivity Properties Of p-Type Films Of GeTe and PbTe"

Dokl. AN UzSSR (Proceedings Of The Academy Of Sciences, Uzbek SSR), 1972, No 2, pp 30-31 (from RZh:Elektronika i yeye primeneniye, No 7, July 1972, Abstract No 7B378)

Translation: An experimental study is made of the dependence of resistance on strain [deformatsiya] during compression and expansion, for polycrystalline films of GeTe and PbTe deposited by thermal evaporation in a vacuum of 10^{-4} mm of mercury on a $3 \times 10 \times 0.018$ mm² paper substrate. In the absence of strain, the resistivity of the GeTe and PbTe films equals, respectively, 1.4 and 0.3 ohm.cm. 6 ref. V.K.

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- 48 -

USSR

UDC: 536.711/.715

ATALLA, S. R., BANCHILA, S. N., and FILIPPOV, L. P., Moscow State University imeni
M.V. Lomonosov

"Studying a Complex of the Thermal Characteristics of Liquid Metals at High Temperatures"

Moscow, Teplofizika Vysokikh Temperatur, Vol 10, No 1, Jan-Feb 1972, pp 72-75

Abstract: This article was presented at a conference on transfer properties in electron melts held during March 1971 at the Institute of Semiconductors of the USSR Academy of Sciences, Leningrad. The authors describe an improved unit for measuring the thermal conductivity and heat capacity of liquid metals in the 1100-2100°K temperature range. The unit is based on the utilization of the method of radial temperature waves during the variable, periodic heating of a specimen by electron bombardment. Results are given from the study of liquid indium, neodymium, and cerium. Values obtained for the Lorentz number of liquid neodymium are close to the theoretical value of $2.45 \cdot 10^{-8}$ w*ohm/degree². Within the studied range, the temperature around the melting point holds with respect to the Wiedemann-Franz-Lorentz law. The coefficient of heat conductivity for liquid indium shows a strong dependence on temperature. Original article: two formulas, three figures, and 11 bibliographic entries.

1/1

- 34 -

1/2 021 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--SILVER ELECTROPLATING -U-
AUTHOR--(04)-KUDRYAVTSEV, N.T., NECHAYEV, YE.A., SOLOVEV, G.S., ATAMANCHUK,
A.V.
COUNTRY OF INFO--USSR *A*
SOURCE--U.S.S.R. 262,574
REFERENCE--OTDRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970 47(6)
DATE PUBLISHED--26JAN70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--CHEMICAL PATENT, ELECTROPLATING, SILVER, METAL PLATING,
CHEMICAL COMPOSITION, ELECTROLYTE

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1994/1996 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0115795
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

2/2 021

CIRC ACCESSION NO--AA0115795

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELECTROLYTIC AG COATING TAKES
PLACE AT 20-5DEGREES AND 0.1-2.5 A-DM PRIME2 IN AN ELECTROLYTE WITH THE
FOLLOWING CONC.: AG SALT (METALLIC) 20-45, KCN 60-90, K SUB2 CO SUB3
20-80, AND NA 2,3,DITHIOLPROPANE SULFONATE 0.005-0.05 G-L.
FACILITY: MENDELEEV, D. I., CHEMICAL TECHNOLOGICAL INSTITUTE, MOSCOW.

Mechanical Properties

12

USSR

UDC 621.785:621.9-462

POZDNYAKOV, L. G., GANZULYA, A. P., DEMENT'YEVA, ZH. A., ATAMANENKO, V. A.,
PAVLOVTSEVA, N. M., and BUTENKO, V. F.

"Investigation of the Effect of Single- and Double-Sided Cooling in Temper
Hardening of Pipes on Their Mechanical Properties"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 5, Sep-
Oct 70, pp 38-40

Abstract: A study was made to determine the effect on mechanical properties of single- and double-sided cooling in temper hardening of low-carbon steel pipes intended for use in pipe lines in the Extreme North. Tempering of low-carbon 14KhGS steel sheets 11 mm thick was done at 900°C in a water tank (double-sided cooling) and under spraying (single-sided cooling), simulating cooling conditions in service, followed by annealing at 600°C for 1 hour. Tests were also conducted on pipes 1020 mm in diameter with an 11 mm wall thickness. The experiment procedure and equipment are described and the variation of mechanical and physical properties across the sheet thickness is shown. The structure obtained after tempering with single- and double-sided cooling

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USSR

POZDNYAKOV, L. G., et al, Metallurgicheskaya i Gornorudnaya Promyshlennost',
No 5, Sep-Oct 70, pp 38-40

was found to be the same. The authors recommend single-sided cooling, which
appears to be more suitable for tempering large-diameter pipes, with wall
thickness up to 12 mm made of low-carbon 14KhGS and 17GS steels.

2/2

1/2 014 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--REACTION OF DIHYDROXYDICYANODIAMMINEPLATINUM WITH NITRIC, SULFURIC,
AND PERCHLORIC ACIDS AT 25 AND 50 DEGREES -U-
AUTHOR--(02)-ATAMANOV, D., SPITSYN, V.I.
COUNTRY OF INFO--USSR *A*
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 456-9
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PLATINUM COMPLEX, POTENTIOMETRIC TITRATION, NITRILE, AMMONIA,
HYDROXYL RADICAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1999/1977 STEP NO--UR/0062/70/000/002/0456/0459
CIRC ACCESSION NO--AP0123758
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123758

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POTENTIOMETRIC TITRN. DATA WERE REPORTED IN TABULAR FORM FOR THE TREATMENT OF $\text{Pt}(\text{NH SUB3}) \text{SUB2} (\text{OH}) \text{SUB2} (\text{CN}) \text{SUB2}$ WITH HNO SUB3 , HClO SUB4 , AND H SUB2 SO SUB4 AT 25 AND 50DEGREES AT VARIOUS CONCNS. THE APPARENT DISSOCN. CONSTS. OF THE COMPLEXES ARE TABULATED FOR THESE TEMPS. AT 25DEGREES THE SUCCESSIVE DISSOCN. ACID CONSTS. WERE $\text{PK SUB1 } 2.95$ AND $\text{PK SUB2 } 2.50$, WHILE AT 50DEGREES THESE WERE 2.77 AND 2.44 , RESP., FOR THE $(\text{Pt}(\text{NH SUB3}) \text{SUB2} (\text{CN}) \text{SUB2})$ PRIME POSITIVE (H SUB2 O) PRIME2 POSITIVE AND $(\text{Pt}(\text{NH SUB3}) \text{SUB2} (\text{CN}) \text{SUB2} (\text{HO})(\text{H SUB2 O}))$ PRIME POSITIVE FORMED BY SUCH ACID TITRN. ANAL. OF THE SCATTER OF THE RESULTS SHOWED THAT THE PK VALUES ARE NOT AFFECTED BY THE CONC. OF THE COMPLEX OR THE NATURE OF THE ACID USED. THUS NO NITRATO, PERCHLORATO, OR SULFATO COMPLEXES OR POLYNUCLEAR COMPODS ARE FORMED. THE SCATTER OF THE PLOTTED TITRN. VALUES IS SHOWN. FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 533.9

ATAMANOV, N. S., ZALKIND, V. M., ZYKOV, V. G., IL'YENKO, B. P., LATS'KO, Ye. M., and TOLOK, V. T., Physicotechnical Institute of the Academy of Sciences UkrSSR, Khar'kov

"Capture of Plasma Injected Into an Injector-Divertor Device of a Stellarator in the Case of a Short- and Long-Term Modulation of the Confining Magnetic Field"

Kiev, Ukrainskiy Fizicheskii Zhurnal, Vol 17, No 3, Mar 72, pp 368-371

Abstract: The experimental investigation of the capture of plasma by the magnetic field of an injector-divertor device of a stellarator is described. The capture of the plasma was investigated by modulation durations of the confining magnetic field lesser and greater than the duration of plasma injection. By the use of a short-term pulse of the counter magnetic field, the forward part of the plasma flux, which is more valuable for the injection, can be trapped and, in the meanwhile, the rear part will split off by entering into the injection chamber. The length of the plasma flow captured in the trap can be controlled by changing the pulse duration of the magnetic field opposed to the field of the trap. The results are discussed by reference to an oscillogram of the probe saturation current of the captured plasma and dependence of the total number of captured charged particles and the density of captured plasma on the counter magnetic field intensity. Four illustr., six biblio. refs.

1/1

- 56 -

USSR

UDC: 536.711/.715

ATALLA, S. E., BANCHILA, S. N., and FILIPPOV, L. P., Moscow State University insti
L.V. Leningrad

"Studying a Complex of the Thermal Characteristics of Liquid Metals at High Tempera-
tures"

Moscow, Teplofizika Vysokikh Temperatur, Vol 10, No 1, Jan-Feb 1972, pp 72-75

Abstract: This article was presented at a conference on transfer properties in electron melts held during March 1971 at the Institute of Semiconductors of the USSR Academy of Sciences, Leningrad. The authors describe an improved unit for measuring the thermal conductivity and heat capacity of liquid metals in the 1100-2100°K temperature range. The unit is based on the utilization of the method of radial temperature waves during the variable, periodic heating of a specimen by electron bombardment. Results are given from the study of liquid indium, neodymium, and cerium. Values obtained for the Lorentz number of liquid neodymium are close to the theoretical value of $2.45 \cdot 10^{-8} \text{ W} \cdot \text{ohm}/\text{degree}^\circ$. Within the studied range, the temperature around the melting point holds with respect to the Wiedemann-Franz-Lorentz law. The coefficient of heat conductivity for liquid indium shows a strong dependence on temperature. Original article: two formulas, three figures, and 11 bibliographic entries.

1/1

- 34 -

1/2 021 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--SILVER ELECTROPLATING -U-
AUTHOR--(04)-KUDRYAVTSEV, N.T., NECHAYEV, YE.A., SOLOVEV, G.S., ATAMANCHUK,
A.V.
COUNTRY OF INFO--USSR A
SOURCE--U.S.S.R. 262,574
REFERENCE--OTDRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970 47(6)
DATE PUBLISHED--26JAN70
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--CHEMICAL PATENT, ELECTROPLATING, SILVER, METAL PLATING,
CHEMICAL COMPOSITION, ELECTROLYTE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
CIRC ACCESSION NO--AA0115795
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AA0115795

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELECTROLYTIC AG COATING TAKES
PLACE AT 20-50 DEGREES AND 0.1-2.5 A-DM PRIME2 IN AN ELECTROLYTE WITH THE
FOLLOWING CONC.N.: AG SALT (METALLIC) 20-45, KCN 60-90, K SUB2 CO SUB3
20-80, AND NA 2,3-DITHIOLPROPANE SULFONATE 0.005-0.05 G-L.
FACILITY: MENDELEEV, D. I., CHEMICAL TECHNOLOGICAL INSTITUTE, MOSCOW.

UNCLASSIFIED

Mechanical Properties

USSR

UDC 621.785:621.9-162

POZDNYAKOV, L. G., GANZULYA, A. P., DEMENT'YEVA, ZH. A., ATAMANENKO, V. A.,
PAVLOVTSEVA, N. M., and BUTENKO, V. F.

"Investigation of the Effect of Single- and Double-Sided Cooling in Temper
Hardening of Pipes on Their Mechanical Properties"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 5, Sep-
Oct 70, pp 38-40

Abstract: A study was made to determine the effect on mechanical properties of single- and double-sided cooling in temper hardening of low-carbon steel pipes intended for use in pipe lines in the Extreme North. Tempering of low-carbon 14KhGS steel sheets 11 mm thick was done at 900°C in a water tank (double-sided cooling) and under spraying (single-sided cooling), simulating cooling conditions in service, followed by annealing at 600°C for 1 hour. Tests were also conducted on pipes 1020 mm in diameter with an 11 mm wall thickness. The experiment procedure and equipment are described and the variation of mechanical and physical properties across the sheet thickness is shown. The structure obtained after tempering with single- and double-sided cooling

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USSR

POZDNYAKOV, L. G., et al, Metallurgicheskaya i Gornorudnaya Promyshlennost',
No 5, Sep-Oct 70, pp 38-40

was found to be the same. The authors recommend single-sided cooling, which appears to be more suitable for tempering large-diameter pipes, with wall thickness up to 12 mm made of low-carbon 14KhGS and 17GS steels.

2/2

1/2 014 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--REACTION OF DIHYDROXYDICYANODIAMMINEPLATINUM WITH NITRIC, SULFURIC,
AND PERCHLORIC ACIDS AT 25 AND 50DEGREES -U-
AUTHOR-(02)-ATAMANOV, D., SPITSYN, V.I.
COUNTRY OF INFO--USSR *A*
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 456-9
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PLATINUM COMPLEX, POTENTIOMETRIC TITRATION, NITRILE, AMMONIA,
HYDROXYL RADICAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1999/1977 STEP NO--UR/0062/70/000/002/0456/0459
CIRC ACCESSION NO--AP0123758
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123758

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POTENTIOMETRIC TITRN. DATA WERE REPORTED IN TABULAR FORM FOR THE TREATMENT OF PT(NH SUB3) SUB2 (OH) SUB2 (CN) SUB2 WITH HNO SUB3, HClO SUB4, AND H SUB2 SO SUB4 AT 25 AND 50DEGREES AT VARIOUS CONCNS. THE APPARENT DISSOCN. CONSTS. OF THE COMPLEXES ARE TABULATED FOR THESE TEMPS. AT 25DEGREES THE SUCCESSIVE DISSOCN. ACID CONSTS. WERE PK SUB1 2.95 AND PK SUB2 2.50, WHILE AT 50DEGREES THESE WERE 2.77 AND 2.44, RESP., FOR THE (PT(NH SUB3) SUB2 (CN) SUB2 PRIME POSITIVE (H SUB2 O)) PRIME2 POSITIVE AND (PT(NH SUB3) SUB2 (CN) SUB2 (HO)(H SUB2 O)) PRIME POSITIVE FORMED BY SUCH ACID TITRN. ANAL. OF THE SCATTER OF THE RESULTS SHOWED THAT THE PK VALUES ARE NOT AFFECTED BY THE CONCEN. OF THE COMPLEX OR THE NATURE OF THE ACID USED. THUS NO NITRATO, PERCHLORATO, OR SULFATO COMPLEXES OR POLYNUCLEAR COMPODS ARE FORMED. THE SCATTER OF THE PLOTTED TITRN. VALUES IS SHOWN.

FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 533.9

ATAMANOV, N. S., ZALKIND, V. M., ZYKOV, V. G., IL'YENKO, B. P., LATS'KO, Ye. M., and TOLOK, V. T., Physicotechnical Institute of the Academy of Sciences UkrSSR, Khar'kov

"Capture of Plasma Injected Into an Injector-Divertor Device of a Stellarator in the Case of a Short- and Long-Term Modulation of the Confining Magnetic Field"

Kiev, Ukrainskiy Fizicheskii Zhurnal, Vol 17, No 3, Mar 72, pp 368-371

Abstract: The experimental investigation of the capture of plasma by the magnetic field of an injector-divertor device of a stellarator is described. The capture of the plasma was investigated by modulation durations of the confining magnetic field lesser and greater than the duration of plasma injection. By the use of a short-term pulse of the counter magnetic field, the forward part of the plasma flux, which is more valuable for the injection, can be trapped and, in the meanwhile, the rear part will split off by entering into the injection chamber. The length of the plasma flow captured in the trap can be controlled by changing the pulse duration of the magnetic field opposed to the field of the trap. The results are discussed by reference to an oscillogram of the probe saturation current of the captured plasma and dependence of the total number of captured charged particles and the density of captured plasma on the counter magnetic field intensity. Four illustr., six biblio. refs.
1/1

USSR

UDC: 621.317:621.373(088.8)

ATAMANOV, V. P.

"Shaping Device"

Avt sv. SSSR (Author's Certificate USSR) Class 21a¹, 36/04. (H 03 k 5/08), No. 272364, Application 8.12.68, Publication 9.09.70 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3A411P)

Translation: A shaping device is proposed which consists of threshold devices, a signal envelope detector, and a bistable circuit. The proposed device is distinguished in that, for the purpose of improving the noise immunity of the device, the input signal is applied to one of the inputs of the threshold devices and the signal envelope detector, the outputs of which are combined with the second inputs of the threshold devices, the outputs of the latter being connected to the inputs of the bistable circuit. E. L.

1/1

USSR

UDC: 621.791.3

ATAMANOV, V. N., Candidate Technical Sciences; BITSOYEV, G. D.
and ISAYEV, A. P., Engineers

"Equipment and Technique for Welding Integrated Circuit Leads to
Printed Circuit Plates"

Moscow, Pribory i sistemy upravleniya, No. 10, 1970, pp 52-54

Abstract: At the present time, solder with a low melting point and flux is used for attaching integrated circuit leads to printed circuit plates in industrial procedures. However, a number of difficulties are involved in this method, and there is a tendency to replace it with better welding processes such as the one proposed in this article. The basic principle here is that the voltage on the welding electrodes is automatically controlled, and the increase or decrease in the cross sections of the elements to be joined are automatically compensated by the increase or decrease in the welding current. The full schematic of the equipment is given in the article together with details of the best use of the method for various materials to be welded. The authors conclude that this new method forms stable joints with nickel printed-circuit leads.

1/1

- 9 -

1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PHYSIOCHEMICAL STUDIES OF BISMUTH, CADMIUM, MERCURY SYSTEM ALLOYS -U-
AUTHOR--(03)--NOSEK, M.V., YANG, S.H., ATAMANOVA, N.M. *A*
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(1), 30-6
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS .
TOPIC TAGS--BISMUTH ALLOY, CADMIUM ALLOY, MERCURY ALLOY, THERMOGRAPHIC
ANALYSIS, MICROHARDNESS, SOLID SOLUTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1997/1506 STEP NO--UR/0360/70/020/001/0030/0036
CIRC ACCESSION NO--AP0120287
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0120287

ABSTRACT/EXTRACT--(U) GP-0-

SYSTEM SHOWED 2 ISOTHERMAL PLANES CORRESPONDING TO THE PERITECTIC REACTION AT 117DEGREES, CD PLUS LIQ. FORMS AND IS FORMED FROM OMEGA PLUS BI AND AT MINUS 34DEGREES, OMEGA PLUS LIQ. FORMS AND IS FORMED FROM (HG) PLUS BI. BOTH SECTIONS CONTAINED 5 AREAS FREE OF LIQ.: BI PLUS CD, BI PLUS CD PLUS OMEGA, BI PLUS OMEGA, BI PLUS OMEGA PLUS (HG), BI PLUS (HG). X RAY ANAL. REVEALED THAT IN THE TERNARY SYSTEM, BI APPEARS AS A DISTINCT PHASE AND THAT HG FORMED A SOLID SOLN. WITH CD. MICROHARDNESS TESTS SHOWED THAT BI DID NOT AFFECT THE HARDNESS. FACILITY:
INST. KHIM. NAUK. ALMA-ATA, USSR.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--GLUCOCORTICOID FUNCTION OF ADRENAL CORTEX IN GUINEA PIGS FREE FROM
GERMS -U-
AUTHOR--SHAPIRO, G.A.; CHAKHAVA, O.V., ATAMANOVA, O.M.
COUNTRY OF INFO--USSR
SOURCE--VOPROSY MEDITSINSKOY KHIMII, 1970, VOL 16, NR 2, PP 140-141
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ADRENAL CORTEX, CORTICOID, GUINEA PIG, GNOTO BIOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1986/0791

STEP NO--UR/0301/70/016/002/0140/0141

CIRC ACCESSION NO--AP0102754

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0102754

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN GUINEA PIGS FREE FROM GERMS THE CONCENTRATION OF 11 HYDROXYSTERIODS IN THE BLOOD WAS INCREASED BY 6,5 TIMES AS COMPARED TO THE CONTROL ANIMALS. GLUCOCORTICOIDS CONTENT IN ADRENALS WAS SIMULTANEOUSLY DECREASED. THE INCREASE IN 11-OXYCORTICOSTEROIDS CONCENTRATION IN THE BLOOD OF ANIMALS FREE FROM GERMS IS CONDITIONED BY FREE PHYSIOLOGICALLY ACTIVE FRACTIONS AND TESTIFIES TO THE ELEVATION IN FUNCTIONAL ACTIVITY OF THE SYSTEM: HYPOPHYSIS ADRENAL CORTEX.

UNCLASSIFIED

Graphite

USSR

UDC 541.135.5-183:547

ATANASOSKI, R. T., DRAZHICH, D. M., and DESPICH, A. R., Institute of Chemical, Technological, and Metallurgical Studies, Belgrade, Yugoslavia

"Capacitance of Electric Double Layer on Pyrolytic Graphite"

Moscow, Elektrokimiya, Vol 6, No 6, Aug 70, pp 1229-1231

Abstract: The influence of anisotropy of graphite crystals on the differential capacitance of the electric double layer of a graphite electrode upon contact with an inert electrolyte was studied at various electrode potentials. The experiments were performed on polycrystalline pyrolytic graphite with clear orientation of the crystallite. The mean deviation between crystallite axis and precipitation axis was 21° .

1/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--MODELS OF CONFORMERS OF NATIVE MYOGLOBIN -U-
AUTHOR--ATANASOV, B.P.
COUNTRY OF INFO--USSR
SOURCE--MOLEKULYARNAYA BIOLOGIYA, 1970, VOL 4, NR 3, PP 348-358
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--MUSCLE TISSUE, BIOLOGIC PIGMENT, MOLECULAR STRUCTURE

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1998/0153 STEP NO--UR/0463/70/004/003/0348/0358
CIRC ACCESSION NO--AP0120853
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--23DCT70

CIRC ACCESSION NO--AP0120853

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT IS SHOWN THAT IN NATIVE STATE THE NYOGLOBIN EXISTS AT LEAST AS TWO SEPARATE CONFORMERS. THE CONCLUSION IS BASED ON THE DATA FROM STUDIES OF TEMPERATURE DEPENDENCE OF WATER PROTONS SPIN LATTICE RELAXATION IN MET MYOGLOBIN SOLUTIONS AS WELL AS ON THE RESULTS OF OTHER AUTHORS. THE CONFORMERS SLIGHTLY DIFFER FROM EACH OTHER IN STRUCTURE AND STABILITY THOUGH THE EXISTENCY DIFFERENCES INVOLVE FUNCTIONALLY IMPORTANT VARIOUS OF THE MOLECULE. THE SUGGESTED MODEL MAKES IT POSSIBLE TO SEE HOW THE PROTEIN CONFORMATION GOVERNS THE REACTIVITY OF THE HAEME. THE POSSIBLE ROLE IS DISCUSSED OF THE SPECIFIC VIBRATIONS OF THE MYOGLOBIN MOLECULE IN THE MECHANISM OF THE LIGAND BINDING. TAKING INTO CONSIDERATION THE INFLUENCE OF MOLECULAR INTERACTIONS UPON THE EQUILIBRIUM BETWEEN TWO CONFORMERS MODELS MAY BE PROPOSED WHICH WOULD EXPLAIN THE NATURE OF HAEME HAEME INTERACTION IN HAEMOGLOBIN. FACILITY: INSTITUTE OF ORGANIC CHEMISTRY, BULGARIAN ACADEMY OF SCIENCES, SOFIA, BULGARIA.

UNCLASSIFIED

Acc. Nr: **AP0044692**

A

Ref. Code: UR 0463

PRIMARY SOURCE: Molekulyarnaya Biologiya, 1970, Vol 4, Nr 1,
pp 51-61

INFLUENCE OF HAEM-LIGAND INTERACTION
ON THE MYOGLOBIN STRUCTURE.
2. UNFOLDING OF MYOGLOBIN DERIVATIVES IN UREA
AS REVEALED BY MEASURING OF MOLECULAR SIZES

B. P. ATANASOV

Institute of Organic Chemistry, Bulgarian Academy of Sciences, Bulgaria, Sofia

Unfolding of myoglobin derivatives in concentrated urea solutions has been studied by measuring of specific molecular volume. The dependence of changing of the specific volume on helical content of polypeptide chain shows that the native molecule has a minimum molecular volume. The unfolding was shown to proceed not according «all or none» principle, but it consists of initial step of swelling followed by «helix-coil» transition of various cooperativity. Using the ferri-derivatives of myoglobin it was demonstrated that haem-ligand interactions have their reflection in two initial stages of unfolding.

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BIOLOGY
Biochemistry

USSR

UDC 547.963.4

ATANASOV, B. P., Institute of Organic Chemistry, Bulgarian Academy of Sciences

"Models of Conformers of Crude Myoglobin"

Moscow, Molekulyarnaya Biologiya, No 3, 1970, pp 348-358

Abstract: The purpose of this article, the third in a series on the subject, was to: (i) systematize the facts which show that conformers are present in myoglobin, a near analog of the beta chain of hemoglobin, and (ii) discuss possible energy, structural, and functional differences between these conformers. Studies on the temperature dependence of spin-lattice relaxation of water protons in metmyoglobin and the data of other investigators indicated that native myoglobin consists of at least two discrete conformers. Although the differences between them in stability and structure are slight, they affect functionally important parts of the molecule. A specific model is proposed which shows how protein conformation controls the reactivity of heme. The author discusses the role played by specific vibrations of the myoglobin molecule in the mechanisms of ligand binding. By taking into account the effect of relationships between molecules on the equilibrium between the conformers, it is possible to design models that could elucidate the nature of the heme-heme interaction in hemoglobin.

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USSR

UDC 615.281.8:547.963.32

ATANASOVA, Yu. G., PUSHKARSKAYA, N. L., GALEGOV, G. A., and DEBOV, S. S.,
Institute of Virology imeni D. I. Ivanovskiy, Academy of Sciences USSR,
and Chair of Biochemistry, First Moscow Institute imeni I. M. Sechenov

"Antiviral and Interferogenic Action of Complexes of Polyadenylic and
Polyuridylic Acids"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 10, 1971, pp
64-66

Abstract: Sterile solutions of polyadenylic and polyuridylic acids (1:1) at
concentrations of 27 to 300 µg/ml inhibited the reproduction of vesicular
stomatitis virus in a culture of chick fibroblasts. When the polymers were
combined with neomycin, the extent of inhibition of virus reproduction in-
creased from 56.8 to 90.3%. (Neomycin alone did not reduce the infectious
titer of the virus). Complexes of polyadenylic and polyuridylic acids also
exhibited marked interferonogenic ability in vitro, but less than that of
some other inducers.

1/1

- 29 -

1/2 C07 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--CERTAIN PROBLEMS IN GLOBAL REGULARIZATION -U-
AUTHOR--(02)-MARCHUK, G.I., ATANBAYEV, S.A. *A*
COUNTRY OF INFO--USSR
SOURCE--MOSCOV, DOKLADY AKADEMII NAUK SSSR, VOL. 190, NO. 3, 1970, PP
527-530
DATE PUBLISHED-----70

SUBJECT AREAS--MATHEMATICAL SCIENCES
TOPIC TAGS--MATHEMATIC OPERATOR, ALGEBRAIC EQUATION, DIFFERENCE EQUATION

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1993/0459 STEP NO--UR/0020/70/190/003/0527/0530
CIRC ACCESSION NO--AT0113364

UNCLASSIFIED

2/2 OCT

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AT0113364

ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. IF G IS AN M DIMENSIONAL REGION WITH BOUNDARY Γ AND L (G) DENOTES THE SPACE OF ALL FUNCTIONS SQUARED AND SUMMED OVER THE REGION G WITH THE NORM SHOWN ON MICROFICHE. THE FOLLOWING PROBLEM IS CONSIDERED IN THE REGION Ω EQUALS G TIMES $(0, T)$ WITH THE END SURFACE Γ EQUALS Γ TIMES $(0, T)$ SHOWN ON MICROFICHE. WHERE L IS A LINEAR, POSITIVE, DEFINITE DIFFERENTIAL OPERATOR OF (2) OF THE (5 MINUS 1) ORDER AND SELF CONJUGATE UNDER THE BOUNDARY CONDITIONS SHOWN ON MICROFICHE. THIS PROBLEM IS CORRECT IN THE TIKHONOV SENSE IN A CLASS OF SOLUTIONS LINEARLY BOUNDED WITH RESPECT TO T IN THE METRIC L (G). AN APPROXIMATE SOLUTION OF THE PROBLEM (1)-(3) HAS BEEN MADE USING A LOCAL METHOD OF CALCULATION IN WHICH EQUATION (1) IS REPLACED BY THE DIFFERENCE EQUATION SHOWN ON MICROFICHE. WHERE ΔT EQUALS $T-M$, U PRIME EQUALS $U(X, K \Delta T)$ (K EQUALS $1, 2, \dots, M$), AND EQUATION (4) IS SOLVED FOR EACH FIXED K . IN THIS ARTICLE, A GLOBAL METHOD OF CALCULATING IS USED TO FIND A SOLUTION, AND THE IDEA OF THIS METHOD IS THE FOLLOWING: ASSUME THAT A DIFFERENCE NET IS INTRODUCED INTO THE REGION G WITH UNIFORM STEPS h SUBI (I EQUALS $1, 2, \dots, M$). EQUATION (1) IS REPLACED BY THE DIFFERENCE EQUATION SHOWN ON MICROFICHE, AND THE DIFFERENCE EQUATION IS WRITTEN FOR ALL INTERNAL INTERSECTIONS OF THE GRID FOR ALL TIMES IN THE INTERVAL 0 IS SMALLER THAN OR EQUAL TO T . WITH BOUNDARY CONDITIONS (3), THIS REDUCES TO SOLVING THE SYSTEM OF LINEAR ALGEBRAIC EQUATIONS. FACILITY: COMPUTER CENTER OF THE SIBERIAN DEPARTMENT OF THE ACADEMY OF SCIENCES USSR, NOVOSIBIRSK.

UNCLASSIFIED